GAO/NSIAD-86-91

United States General Accounting Office

GAO

Report to the Secretary of the Air Force

May 1986

# AIR RESERVE FORCES

## Opportunities for Savings in Transfer of C-5 and C-141 Aircraft

COMPLETED

ORIGINAL

GAO/NSIAD-86-91

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United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-221606

May 1, 1986

The Honorable Edward C. Aldridge, Jr.
Acting Secretary of the Air Force

Dear Mr. Secretary:

We evaluated the Air Force's actions and plans in transferring C-5 and C-141 aircraft from the active Air Force to the Air Reserve Forces (ARF)[1] to determine how the Air Force manages costs associated with such transfers. These transfers are part of an effort to modernize and enlarge the ARF. The transfer of C-141 and C-5 aircraft is to reduce operational costs by decreasing flying hours and the number of active duty personnel.

We noted three areas in which increased management emphasis and attention to costs could result in savings.

- Initial spares requirements determination.
- Engine maintenance facility requirements.
- Basing decisions, particularly with regard to the number of aircraft assigned to bases.

## Background

The Air Force, over the past several years, has been enlarging and modernizing the ARF. Many of the transfers of aircraft to the ARF have been mandated by the Congress to increase the ARF's contributions to both combat and support missions. One of the primary purposes of such transfers is to lower operating costs through reductions in aircraft flying hours and active duty personnel.

The Conference Committee for the Department of Defense (DOD) fiscal year 1984 appropriations directed the Air Force to plan for transferring 36 C-141 aircraft to the ARF. The Air Force believed that such a transfer would increase the operating costs of its active forces because the C-5, a larger and more expensive aircraft to operate, would have to be used instead of the C-141 aircraft. The Air Force recommended transferring C-5 as well as C-141 aircraft to the ARF because of the higher operational costs of the C-5 and the heavy peacetime roles of the C-141. The Air Force's specific proposals included the transfer of 16 C-141 and 44 C-5

[1]The ARF consists of the Air Force Reserve and the Air National Guard.

aircraft to the ARF in the 1980s, with an additional 64 C-141 aircraft to be transferred in the 1990s.

The Air Force made the basing decisions for the transfers in the 1980s. The 16 C-141 aircraft will be transferred between July 1986 and July 1987 to Thompson Field, Jackson, Mississippi, and Andrews Air Force Base (AFB), Maryland. The 44 C-5 aircraft will be transferred to three locations—Kelly AFB, Texas; Westover AFB, Massachusetts; and Stewart International Airport, New York. The first eight C-5 aircraft were transferred during the summer of 1985—five to Kelly AFB and three to Stewart International Airport. The remaining 36 C-5 aircraft are scheduled to be transferred between January 1987 and September 1989.

## Overstated Initial Spares Support List Increases Cost of Transfers

Sufficient spares must be acquired by ARF bases receiving new aircraft to preclude excessive grounding of aircraft. Excessive grounding of aircraft affects readiness and results in training cancellations which affect aircrew proficiency and morale. However, excessive spares acquired by ARF bases receiving new aircraft increase costs of storage and transportation and result in unnecessary or premature acquisitions. The Initial Spares Support List (ISSL) for the C-5 and C-141 aircraft, which was used to determine the spares to be initially stocked (reparable items and repair parts) at each base, included many items that appear to be unnecessary. An alternate method for determining initial spares requirements has also been found to be inadequate by officials at the Military Airlift Command (MAC).

The ISSL is an estimate of the number of spares that will be needed to support aircraft for the initial 2 years of assignment to a base. Until August 1985, the air logistics centers were responsible for generating ISSLs for "new activations"—the first transfer of aircraft to a location. The information used to produce an ISSL included

- usage data (usually 1 year) from selected bases that have the type of aircraft being transferred,
- total annual hours flown by these aircraft at the selected bases, and
- projected flying hours and number of aircraft being transferred to gaining units.

A computer-generated ISSL showed the type and number of items needed to support the incoming aircraft. Additionally, a requisition was produced for each line item on the ISSL and sent to the gaining unit's base

supply activity. Unless the gaining unit modified the ISSL, the items were stocked and retained by the unit for as long as 2 years.

Additional analysis at the base level has substantially changed the initial spares acquired among bases receiving the same aircraft. These changes have occurred for both the C-5 and C-141 aircraft.

The number and value of initial spares for the C-5 aircraft varied substantially between Kelly AFB and Stewart International Airport. The ISSL used at Kelly AFB to acquire initial spares for 16 C-5 aircraft contained about 13,950 line items, valued at $4.9 million. All of these items were requisitioned. An identical ISSL was prepared for 12 C-5 aircraft to be assigned at Stewart.[2] However, Stewart eliminated about 7,820 of the 13,950 line items, resulting in an amended ISSL valued at about $1.3 million—$3.6 million less than items requisitioned at Kelly AFB.

In their analysis, personnel at Stewart utilized the spares usage history for C-5 aircraft assigned to Dover AFB, Delaware, an active Air Force base with about 36 C-5 aircraft. These data showed either no usage history on the 7,820 items or usage that was too low to produce a stockage level. Since it will operate only three C-5 aircraft for the first 20 months, Stewart justified deleting these items from the ISSL because it believed that needed stockage levels would be lower than those at Dover.

The monitor for the C-5 ISSL at the San Antonio Air Logistics Center stated that the criteria used to generate the ISSL inflate requirements. The criteria require repair parts to be included on the ISSL if they are requested at least once by any one of the selected bases during a 12-month period. For the C-5 ISSL, the criteria had a significant effect. Of the 13,950 line items on the ISSL for the C-5, 13,657 were for repair parts and 11,122, or 81 percent, of these had a computed quantity of only one unit.

The ISSL prepared for the C-141 also appears to be inflated. The C-141 ISSL underwent major manual revisions at the Warner Robins Air Logistics Center. These revisions eliminated about 1,900 repair parts line items and added about 230 high-dollar reparables. The final ISSL included 12,300 line items valued at about $7.3 million. One of the bases receiving the C-141, Thompson Field, analyzed items stocked for the 57 C-141 aircraft at Charleston AFB, South Carolina. Based on this analysis,

[2]Although Stewart was assigned four aircraft fewer than Kelly, Air Force officials told us that the required ISSL would be the same.

Thompson's supply personnel plan to eliminate about 5,750, or 47 percent, of the ISSL line items. In addition, they plan to reduce the quantity stocked for about 800 other line items.

The Air Force was to change the method for determining the initial spares in October 1985. The change would have required the major commands, instead of the air logistics centers, to compile a list of initial spares for weapon systems in service for 3 years or more. This method was to be used for the C-141 activations; however, MAC officials responsible for developing this method stated that the first run produced insufficient stockage levels of spares. A new method is now being considered to produce the spares support list for C-141 activations.

DOD, in commenting on our draft report, agreed that ISSL requirements for the C-5 and C-141 aircraft were in some cases overstated. They state that actions have been taken and further actions are planned to refine and reduce ISSL requirements. DOD stated that our report overstates the number and the cost of items requisitioned for the C-5 because the ISSLs for Kelly and Stewart were reviewed and adjusted in September 1984. Air Force documents and discussions with Air Force officials support the data in our report. We asked DOD to provide documentation to support their statement. Support was not provided.

DOD also stated that Stewart's ISSL was reduced because Stewart has virtually no intermediate maintenance capability and fewer aircraft than Kelly. As previously noted, Stewart officials justified deleting line items after comparing their ISSL against local demand data at Dover AFB which has full intermediate maintenance capability. For the items deleted, Dover had either no usage history or the usage was too low to produce a stockage level.

## Costs of C-5 Engine Maintenance Facility May Outweigh Benefits

The Air Force is planning to establish a jet engine intermediate maintenance (JEIM) facility[3] at Kelly AFB as part of the transfer of C-5 aircraft to three ARF units. MAC estimated the cost of facilities and support equipment at over $7 million. A JEIM facility for C-5 aircraft exists at both Travis AFB, California, and Dover AFB, Delaware. MAC estimates that the cost to expand the Dover JEIM facility to handle the work planned for the Kelly JEIM facility would be $1 million. Also, there may be additional cost for transporting engines to Kelly AFB for repair.

[3]JEIM facilities are used to repair engine problems that require more skill and tooling than is available at the organizational maintenance level, but less than is required at the depot maintenance level.

Additional JEIM capability may not be needed to support the C-5 aircraft. MAC conducted a study and determined that a new JEIM facility is not required for peacetime or wartime support. Subsequently, the Air Force decided to proceed with the facility. Air Force officials told us that the facility could be used to augment MAC facilities during wartime surge, reduce total force maintenance vulnerability, maximize the self-sufficiency of the organic ARF, and increase the sustainability of the total force. Air Force officials could provide us with no analysis which considered these factors, together with cost, in support of the decision to establish the third JEIM instead of expanding the capacity at existing locations.

MAC officials believe that JEIM requirements for all C-5 aircraft can be satisfied by expanding the JEIM facility at Dover. Table 1 compares MAC cost estimates to build a C-5 JEIM facility at Kelly AFB with those to expand the Dover facility. This cost comparison considers the total C-5 aircraft force, including the new C-5 aircraft being acquired by the active forces.

**Table 1: C-5 JEIM Estimated Cost Comparison**

Dollars in millions

| Cost elements | Construct new JEIM | Expand existing JEIM |
|---|---|---|
| Facilities | $3.5 | $1.0 |
| Engine test cell modification | .7 | • |
| New support equipment | 3.0 | • |
| Training | .1 | • |
| **Total** | **$7.3** | **$1.0** |

In commenting on our draft report, DOD stated that costs for a new JEIM will be less than the costs determined by MAC. This position is based on plans to renovate an existing facility and to use existing support equipment. Modifying existing facilities and using equipment that is excess to needs elsewhere could reduce the overall cost of establishing a third JEIM at Kelly AFB. DOD and Air Force officials said that engineering studies have not been done which would substantiate that an existing facility could be used at lower cost. MAC's study concluded that existing facilities could not be used. Furthermore, ARF has not determined that existing equipment could be used.

Additional transportation costs could be incurred if, in accordance with Air Force plans, the facility at Kelly AFB repairs C-5 engines for the

other ARF bases. Kelly AFB is about 1,550 nautical miles from Westover AFB and about 1,460 nautical miles from Stewart International Airport. These two units are about 240 and 152 nautical miles, respectively, from Dover AFB, which has JEIM capability. However, to the extent that the Air Force can use its regularly scheduled channel or training missions to transport these engines as opportune cargo, additional cost would be avoided.

## Future Basing Decisions Will Affect Transfer Costs

The Air Force plans to transfer an additional 64 C-141 aircraft to the ARF in the 1990s. Decisions on the number of bases and the number of aircraft assigned to each base have not been made. These decisions will significantly affect the overall cost of those transfers. We recognize that factors other than cost, such as personnel recruiting requirements, must be considered in making basing decisions. However, consideration of these factors should not lessen the Air Force's consideration of the cost implications of various alternatives.

When transfers of aircraft are made, the gaining unit must have the facilities and ground support equipment to support the aircraft. Meeting these requirements can be costly. For example, the Air Force estimated that military construction cost for the transfer of the 16 C-141 and 44 C-5 aircraft will be $223.5 million and the cost for ground support equipment will be $46.4 million.

Basing aircraft in larger quantities at fewer locations would reduce the cost of ground support equipment, military construction, and spares. Costs would be incurred for these at each gaining unit. However, the costs do not increase at the same rate with increasing numbers of aircraft per base. For example, Air Force data show that about $5.3 million can be saved in ground support equipment if 16 C-141 aircraft are placed in one location rather than 8 aircraft in two locations.

Similar opportunities may exist to reduce construction cost for JEIMs, apron space, hangars, and other facilities. For example, all six active Air Force C-141 locations have JEIM facilities. JEIM facilities are being considered for all ARF locations that will receive C-141 aircraft. The estimated cost to construct a C-141 JEIM facility is $1.75 million. If the Air Force, in basing the remaining 64 C-141 aircraft, places 8 aircraft at eight locations and constructs a JEIM facility at each location, the cost for these facilities would be about $14 million. If, however, the Air Force places 16 aircraft at four locations, the cost for associated JEIM facilities would

be about $7 million—a potential savings of about $7 million for just one element of construction costs.

In commenting on our draft report, DOD agreed that basing decisions should be made in the most economical manner consistent with military readiness and capability. DOD stated that an economic analysis is done when a force structure change is considered.

## Conclusions and Recommendations

The transfer of C-141 and C-5 aircraft is to reduce operational costs. However, we believe the Air Force needs to focus greater attention on the costs involved to ensure that such transfers are completed in the most cost-effective manner. With the number of such transfers, consideration of costs is essential. The three areas discussed in this report—spare parts, JEIM facilities, and basing decisions—are examples of opportunities where the Air Force can reduce costs involved in transfers. Cost reductions, when transferring aircraft, are realized through decreasing active duty personnel requirements and flying hours. The Air Force needs to weigh fully all costs incurred in transfers if maximum savings are to be achieved.

We recommend that you require indepth cost analyses be prepared for future transfers so that the most cost-effective decisions are made. We also recommend that you require a review of the costs involved in the current transfers to determine how those costs can best be minimized, particularly with regard to reducing initial spares requirements and constructing the jet engine intermediate maintenance facility at Kelly AFB.

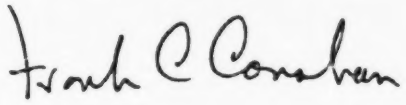
## Agency Comments and Our Evaluation

DOD provided comments on a draft of this report and either concurred or partially concurred with our findings. We have revised the report where appropriate to recognize DOD's comments. DOD's comments are in appendix II.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen of the House Committee on Government Operations, Senate Committee on Governmental Affairs, and House and Senate Committees on Appropriations and on Armed Services; the Secretary of Defense; and the Director, Office of Management and Budget.

Sincerely yours,



Frank C. Conahan
Director

# Objective, Scope, and Methodology

Our objective was to assess how the Air Force managed the costs associated with the transfers of the C-5 and C-141 aircraft to the ARF. We focused our review on Air Force actions related to high cost areas such as spares requirement determination, facility requirements, and basing decisions.

To accomplish our objective, we obtained documents from and held discussions with representatives of the Air Force, the Air Force Reserve, and the Air National Guard. Specifically, we visited

- Headquarters, Air Force Logistics Command
  Wright-Patterson AFB, Ohio;
- San Antonio Air Logistics Center
  Kelly AFB, Texas;
- Warner Robins Air Logistics Center
  Robins AFB, Georgia;
- Air Force Reserves 433rd Military Airlift Wing
  Kelly AFB, Texas;
- Air National Guard 105th Military Airlift Group
  Stewart International Airport, New York;
- Headquarters, Military Airlift Command
  Scott AFB, Illinois;
- Plans and Operations Division, National Guard Bureau
  Washington, D.C.;
- Personnel, Programs, and Resources Division
  Office of Air Force Reserve, Washington, D.C.;
- Office of the Deputy Chief of Staff, Logistics and Engineering
  Headquarters, U.S. Air Force, Washington, D.C.
- Office of the Deputy Chief of Staff, Plans and Operations
  Headquarters, U.S. Air Force, Washington, D.C.

Additionally, we reviewed current and proposed regulations, which discuss the responsibilities and procedures involved in preparing a list of initial items needed to support the transfer of aircraft to new locations. At Headquarters, Air Force Logistics Command, we held discussions with Air Force Audit Agency auditors and logistics command personnel regarding procedures used to establish a spares support list.

We also discussed with the logistics monitors, who developed the lists of initial spares at the San Antonio and Warner Robins Air Logistics Centers, what steps they took to develop the lists for the units scheduled to receive the C-5 and C-141 aircraft. We also asked the base supply

officers at Kelly and Stewart their opinions on the initial supply lists prepared by the logistics center ISSL monitors.

We discussed the need for an additional JEIM facility with personnel from Kelly's Military Airlift Wing, Headquarters, Military Airlift Command; and Headquarters, U.S. Air Force, Washington, D. C. The cost analysis information regarding the additional JEIM facility for the C-5 aircraft was prepared by personnel from Headquarters, Military Airlift Command.

Information on the cost of the ground support equipment was obtained from personnel at the Warner Robins Air Logistics Center. The personnel from the 433rd Military Airlift Wing and the 105th Military Airlift Group provided the estimated cost of facility construction.

We made our review from January through September 1985, and it was conducted in accordance with generally accepted government auditing standards.

# Comments From the Assistant Secretary of Defense (Reserve Affairs)

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

February 28, 1986

RESERVE AFFAIRS

Mr. Frank C. Conahan
Director, National Security and
International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report entitled, "Air Reserve Forces Opportunities for Savings in Transfer of C-5 and C-141 Aircraft," dated January 14, 1986 (GAO Code No. 392103, OSD Case No. 6921).

The Department agrees in part with the report's findings and agrees with GAO's recommendations. The DoD recognizes that in the past Initial Spares Support List (ISSL) requirements for the C-5 and C-141 aircraft were in some cases overstated. However, actions have been taken, and further actions are planned, to refine and reduce ISSL spares requirements. There are also non-monetary costs that must be considered in an ISSL development. The Air Force plans to establish a third Jet Engine Intermediate Maintenance facility at Kelly AFB; however, some costs will not be incurred and others will be substantially less than reported by GAO. The DoD agrees that basing decisions should be made considering the most economical alternatives consistent with military readiness and capability. Accordingly, a detailed cost analysis, in conjunction with a demographic and site feasibility study, is always done when an Air Reserve Forces force structure change is considered.

The findings and recommendations are addressed in greater detail in the enclosed response and we appreciate the opportunity to provide comments.

Sincerely,

James H. Webb, Jr.

Enclosure

DEPARTMENT OF DEFENSE COMMENTS

ON GAO DRAFT REPORT

DATED JANUARY 14, 1986 (GAO CODE 392103)

"AIR RESERVE FORCES OPPORTUNITIES FOR SAVINGS IN

TRANSFER OF C-5 AND C-141 AIRCRAFT"

OSD CASE 6921

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FINDINGS

o **FINDING A: The Initial Spares Support List (ISSL) for the C-5 and C-141 Aircraft are Overstated.** GAO reported that, until August 1985, Air Force Air Logistics Centers were responsible for producing the computer generated ISSLs for new aircraft activations, listing the estimated number of spares needed to support the aircraft for its initial two years at a base. According to GAO, the system automatically produced a requisition for each ISSL line item and, unless the list was modified, the items were stocked by the gaining activity for up to two years. GAO found, however, that base level analysis has changed initial spares acquisitions for both the C-5 and C-141, resulting in substantial variation in the number and value of initial spares between bases. For example, GAO found that the ISSL used at Kelly Air Force Base resulted in the acquisition of 13,950 initial spares line items valued at $4.9 million to support 16 C-5 aircraft. On the other hand, GAO found that personnel at Stewart International Airport utilized spares usage history for Dover Air Force Base to eliminate about 7,820 line items valued at $3.6 million to support 12 C-5s based at Stewart. GAO reported that the Stewart personnel justified deleting the items based on lower stockage requirements since Stewart will operate only three C-5 aircraft for the first 20 months. GAO also noted that, according to the C-5 ISSL monitor at San Antonio Air Logistics Center, the ISSL criteria inflate requirements. Similarly, GAO found that for the C-141 ISSL, Thompson Field personnel plan to eliminate 5,750 of the 12,300 C-141 ISSL line items and reduce the quantity stocked for about 800 others. GAO noted that a new method is now being considered to produce the spares support list for C-141 activations. GAO concluded that excessive spares acquired by Air Reserve Forces (ARF), based on the inflated ISSL, increase costs of storage and transportation, and result in unnecessary or premature acquisitions. (pp. 3-5, GAO Draft Report)

Now on pp. 2-4.

**DoD POSITION:** Partially concur. The DoD agrees that in the past ISSL requirements for the C-5 and C-141 aircraft were in some cases overstated. However, actions have been taken, and

further actions are planned, to refine and reduce ISSL spares requirements. The Air Force formed logistics working groups to establish and oversee the logistics planning for the transfer of C-5 and C-141 aircraft to the ARF. Five subgroups were created to evaluate and manage actions in the specific areas of spares, support equipment, training, maintenance, and manpower.

The C-5 Spares Subgroup tasked San Antonio Air Logistics Center (SA-ALC) to provide the C-5 baseline ISSL to establish spares requirements for both ARF bases. The Kelly AFB requisition of 13,950 items valued at $4.9 million cited in the GAO report is incorrect. In fact, the Spares Subgroup review and adjustment of the February 1984 ISSL resulted in amended ISSLs for Kelly and Stewart International Airport. The actual requisition at Kelly (10,145 items valued at $3.8 million) in September 1984 was developed to support full intermediate maintenance capability by the end of FY 1987. Stewart has virtually no intermediate maintenance capability and fewer primary authorized aircraft than Kelly. Therefore, its spares requirement was adjusted to 5,265 items by the September 1984 ISSL. Stewart is programmed for an intermediate maintenance capability after the end of FY 1988, when its stock levels will be similar to Kelly's.

Also, the same procedures were followed in preparing the spares list for ARF C-141B transfers at Thompson Field and Andrews AFB. During 1985, a joint team was commissioned to develop the ARF spares list from the ISSL provided by the Air Force Logistics Command (AFLC). The list was reviewed, pared to accommodate the projected level of maintenance and mission activity at both locations, and implemented in February 1986.

Spares acquisition cost is not the only consideration in establishing ISSL requirements. For example, it is not always prudent to eliminate ISSL items to save money if the item eliminated would ground an aircraft until a part is obtained. Intrinsic costs associated with aircraft grounding can, and often do, outweigh the fiscal benefit of deleting an infrequently required, but critical, spare part from inventory.

In addition, other factors, such as the nonmonetary cost to Reserve training when an aircraft is grounded, are just as crucial in terms of individual readiness and morale. Drilling Reservists frequently must make personal sacrifices to fly for their monthly currency and proficiency requirements. Training cancellations seriously affect aircrew retention, proficiency, and qualification to the extent that a unit may no longer be capable of performing its peacetime or wartime mission.

The DoD agrees that monetary cost should be considered when determining the ISSL requirements for an ARF base, but it

must be measured against training, readiness, and mission capability. All of these factors are considered when the Air Force establishes or revises an ISSL.

- **FINDING B: C-5 Engine Maintenance Facility Plans and Costs.** GAO reported that, as part of the C-5 transfer, the Air Force is planning to establish a Jet Engine Intermediate Maintenance (JEIM) facility at Kelly Air Force Base at a cost of $7 million, as estimated by the Military Airlift Command (MAC). However, according to GAO a study conducted by MAC determined that a new JEIM is not required for peacetime or wartime support. In addition, GAO reported that MAC officials believe JEIM requirements for all C-5 aircraft can be satisfied by expanding the existing Dover Air Force Base JEIM facility at an estimated cost of $1 million. GAO found, however, that the Air Force decided to proceed with the third JEIM. GAO reported that increasing survivability and maintaining ARF self-sufficiency were cited as justifications by Air Force officials for the third JEIM, but no analysis exists to support this justification. Further, GAO reported that additional transportation costs could also be incurred, amounting to about $4 million annually, if the facility at Kelly repairs C-5 engines for the other ARF bases as planned by the Air Force. GAO concluded that the costs of the JEIM facility planned by the Air Force as part of the C-5 transfer may outweigh the benefits. (pp. 6-7, GAO Draft Report)

Now on pp. 4 6

**DoD POSITION:** Partially Concur. The Air Force plans to establish a third JEIM at Kelly; however, the cost should be considerably less than reported by GAO. The costs cited by GAO to establish the capability at Kelly; however, were extracted from a MAC study. The costs cited in this study were generic to the construction of a new facility. However, the Air Force has determined that some of these costs will not be incurred and other costs will be less than indicated in the study.

Based on GAO analysis of the MAC study, the report implies that a new facility must be constructed at Kelly. Actually, the Air Force Reserve (AFRES) plans to use a building that would become available in FY 1988, with estimated renovation cost of $450,000. Adding installed equipment will render a facility cost of less than $2 million instead of the $3.5 million reflected in the GAO report.

The MAC study also determined that a complement of support equipment, valued at $3 million, would be required for the JEIM. However, AFRES plans to investigate the availability of existing support equipment for Kelly to reduce the overall equipment costs. In fact, the support equipment issue will be considered during a MAC/AFRES meeting in March 1986. Additionally, AFRES has formed a logistics working group to

review, in depth, requirements for the Kelly JEIM facility. This review is scheduled to conclude prior to the end of April 1986.

The additional $4 million in transportation costs reported by GAO assumes a worst case scenario that appears to include a dedicated C-5 mission for transporting each engine. This estimate is based on the incorrect assumption that additional program flying hours would be required to transport these engines to and from Kelly for JEIM repair.

This assumption is not realistic because AFRES C-5 flying hours are funded in relation to aircrew training requirements. AFRES aircrews meet minimum MAC currency and proficiency requirements by flying channel or training missions. Many of these aircraft will transit Dover AFB and/or Travis AFB regularly and will be able to transport engines as opportune cargo with negligible increases in operating cost.

Also, the GAO report does not consider the additional cost, based on the worst case assumptions, if Kelly did not have a JEIM facility. In this case Kelly C-5 engines would be shipped to Dover for JEIM; then those engine modules requiring depot maintenance would be returned to SA-ALC at Kelly (location of the C-5 depot) for overhaul.

In addition, the decision to establish a third JEIM facility at Kelly AFB involved factors other than cost. Increased survivability and maximized self-sufficiency of ARF units at a relatively low cost were important additional factors. As a further benefit, the Kelly JEIM facility could be used to augment MAC facilities during wartime surge. After all Air Force C-5Bs have been delivered, there will be 127 C-5 aircraft (508 installed engines) in the Active/Reserve force. During periods of high aircraft utilization, proportionally more engine removals will be required. The Kelly JEIM facility will allow a greater engine recycle capability without increasing the size and capacity of existing MAC JEIM facilities.

The Kelly JEIM facility will reduce Total Force maintenance vulnerability, maximize the self-sufficiency of the organic ARF, and increase the sustainability of the Total Force airlift aircraft; all for relatively little additional cost. For these reasons a third JEIM facility is vital to the interests of the US and its Allies.

- **FINDING C: Future Basing Decisions Will Affect Transfer Costs.** GAO reported that the Air Force plans to transfer an additional 64 C-141 aircraft to the ARF in the 1990s, but decisions regarding the number of bases and aircraft assigned to each base have not yet been made, decisions which GAO

concluded will significantly affect overall transfer costs. For example, GAO reported that the gaining unit in a transfer must have the facilities and equipment to support the aircraft which, in the case of the C-141 and C-5 aircraft now being transferred, will amount to $223.5 million for construction and $46.4 million for ground support equipment according to Air Force estimates. On the other hand, GAO found that opportunities exist to reduce costs if aircraft are based in larger quantities at fewer locations, citing as an example an Air Force estimate that $5.3 million can be saved in support equipment by basing 16 C-141s at one location rather than eight aircraft at two locations. GAO noted that similar opportunities may exist to reduce construction cost for JEIMs, apron space, hangars, and other facilities. GAO concluded that the Air Force needs to fully weigh all costs involved in transfers if maximum savings are to be achieved. (pp. 8-9, GAO Draft Report)

Now on pp. 6-7.

**DoD POSITION:** Concur. The DoD agrees that basing decisions should be made considering the most economical alternative consistent with military readiness and capability. In fact, an economic analysis is done when a force structure change is considered. Two additional considerations, employed during any ARF force structure change, are location demographics and basing capabilities. The ARF is dependent on demographics to support personnel increases required by a force structure change. Identified bases must have the physical capacity to absorb new or additional assets and mission activities. These fiscal, demographic, and basing capability factors must be considered in all force structure changes.

Past force structure changes demonstrate responsible basing decisions by the Air Force for all aircraft types. A prime consideration in basing C-5s at Westover, for example, was the availability of hangar space. The decision to base 32 C-5 aircraft in two 16-aircraft units versus 8-aircraft units is testimony of DoD's effort to reduce construction costs. Also, the buildup of Peterson Field from 8 to 16 C-130 aircraft was the result of a construction cost judgement.

The DoD does not agree that JEIM facilities are planned for all ARF locations that will receive C-141 aircraft, as the Air Force has not made that decision. As the Air Force acquires C-17s and additional C-141s are transferred to the ARF, much of the C-141 maintenance capability (e.g., JEIM) must be transferred accordingly. However, the number of required C-141 JEIM facilities will depend on the number of aircraft assigned and the proximity of the ARF C-141 bases. The decision on the location of JEIM facilities will be made only after the ARF C-141 bed-downs have been determined.

**RECOMMENDATIONS**

Now on p. 7.

- **RECOMMENDATION 1:** GAO recommended that the Secretary of the Air Force require in-depth cost analyses be prepared for future transfers so that the most cost-effective decisions are made. (p. 9, GAO Draft Report)

  **DoD POSITION** Concur. An in-depth cost analysis, in conjunction with a demographic and site feasibility study, will be prepared for any future transfer of C-141s and C-5s. When programming alternatives can be decided best on a strictly economic basis, HQ USAF/ACC will be the agency responsible for performing the required cost analysis.

Now on p. 7.

- **RECOMMENDATION 2:** GAO recommended that the Secretary of the Air Force require a review of the costs involved in the current transfers to determine how those costs can best be minimized, particularly with regard to reducing initial spares requirements and constructing the JEIM facility at Kelly AFB. (pp. 9-10, GAO Draft Report)

  **DoD POSITION** Concur. DoD agrees that an in-depth review of costs incurred in the current transfers should be conducted. In fact, as stated in the DoD position on Finding A, such a review already has been accomplished, and it resulted in reduced spares lists at all locations. The costs for establishing the JEIM capability at Kelly AFB have been, and will continue to be, scrutinized carefully. As previously stated in the DoD position to Finding B, a logistics working group has been formed by AFRES to study the JEIM requirements and assess the available facilities. In the interest of keeping cost at a minimum, DoD will continue to screen carefully the cost of follow-on activity at the bed-down locations.

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